

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: HAGEL et al
Serial No.: 09/639,071
Filed: August 16, 2000
For: Firing Mixture
Group: 3641
Examiner: Sanchez, G.

PRELIMINARY AMENDMENT

Assistant Commissioner
for Patents
Washington, D.C. 20231

June 5, 2001

Sir:

Prior to examination on the merits of this application, please amend the above-identified application as follows:

IN THE SPECIFICATON:

Page 1, before the paragraph beginning on line 1, insert:

--This is a continuation of Application Serial No. 09/639,071, filed August 16, 2000, which is a continuation of Application Serial No. 09/171,805, filed October 14, 1999 (now abandoned)--

IN THE CLAIMS:

Please amend the claims to read as follows:

3. (Amended) Ignition mixture according to Claim 1, characterized in that the explosive, alone or as a mixture, is selected from the secondary explosives, for example from nitrocellulose, hexanitrostilbene, from certain heterocycles such a

nitrotriazolone, from the derivatives of tetrazoles such as aminotetrazole, ditetrazole, or diaminoguanidine azotetrazole, and from hexagene or octagene, from secondary explosives derived from urea and its derivatives such as biuret, guanidine, nitroguanidine, guanidine nitrate, amino guanidine, aminoguanidine nitrate, thiourea, triaminoguanidine nitrate, aminoguanidine hydrogen carbonate, azodicarboxylic acid diamide, tetrazene, semicarbazide nitrate, from the urethanes, from the ureides such as barbituric acid and its derivatives, from nitrated aromatic compounds, or from nitrated aromatic compounds with a polymer structure such as polynitropolyphenoether or the polynitropolyphenylenes, or from mixtures of these explosives.

5. (Amended) Ignition mixture according to Claim 3, characterized in that the secondary explosive is chosen from the polynitropolyphenylethers and/or polynitropolyphenylenes.

6. (Amended) Ignition mixture according to Claim 1, characterized in that the oxidant is chosen from sulfur, the peroxides of alkali metals or alkaline earth metals, from zinc peroxide, from the peroxodisulfates of the aforesaid elements, and of ammonium from the nitrates of the alkali metals and alkaline earth metals, in particular from lithium, sodium, potassium, or strontium nitrate as well as ammonium nitrate, from the oxohalogen compounds of alkali metals or alkaline earth metals or of ammonium, in particular from potassium perchlorate or ammonium perchlorate, or from mixtures of the aforesaid substances.

7. (Amended) Ignition mixture according to Claim 1, characterized in that the reducing agent is a metal, chosen from titanium, zirconium, aluminum, magnesium, or cerium, a mixture of these metals, an alloy of these metals such as titanium/aluminum,

or cerium/magnesium, in that it is carbon or boron, or in that it is a mixture of the aforesaid substances.

8. (Amended) Ignition mixture according to Claim 1, characterized in that, in addition to the explosives, oxidizers, and reducing agents, it contains binders and/or processing agents and/or pressing agents and/or combustion moderators known of themselves.

9. (Amended) Ignition mixture according to Claim 1, characterized in that it is dyed or reacted with dye pigments.

10. (Amended) Ignition mixture according to Claim 1, characterized in that substances or mixtures thereof are used as combustion moderators that are appropriate for affecting combustion and the rate thereof by heterogeneous or homogenous catalysis.

11. (Amended) Method for manufacturing the ignition mixture according to Claim 1, characterized in that the individual components are mixed then pressed.

12. (Amended) Use of the ignition mixture according to Claim 1 for ignition pyrotechnic mixtures or primers as well as propellant charges.

13. (Amended) Ignition mixture according to Claim 1, characterized in that it contains a mixture of primary and secondary explosives.

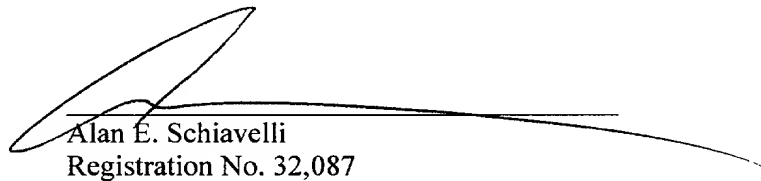
REMARKS

The foregoing amendments are respectfully requested prior to examination on the merits of this application. A marked up copy of the amended claims is attached.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 306.36690CC2), and please credit any excess fees to such deposit account.

Respectfully submitted,

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3. (Amended) Ignition mixture according to Claim 1 ~~or~~ 2, characterized in that the explosive, alone or as a mixture, is selected from the secondary explosives, for example from nitrocellulose, hexanitrostilbene, from certain heterocycles such a nitrotriazolone, from the derivates of tetrazoles such as aminotetrazole, ditetrazole, or diaminoguanidine azotetrazole, and from hexagene or octagene, from secondary explosives derived from urea and its derivatives such as biuret, guanidine, nitroguanidine, guanidine nitrate, amino guanidine, aminoguanidine nitrate, thiourea, triaminoguanidine nitrate, aminoguanidine hydrogen carbonate, azodicarboxylic acid diamide, tetrazene, semicarbazide nitrate, from the urethanes, from the ureides such as barbituric acid and its derivatives, from nitrated aromatic compounds, or from nitrated aromatic compounds with a polymer structure such as polynitropolyphenolether or the polynitropolyphenylenes, or from mixtures of these explosives.

5. (Amended) Ignition mixture according to ~~one of Claims~~ Claim 3 ~~or~~, characterized in that the secondary explosive is chosen from the polynitropolyphenylethers and/or polynitropolyphenylenes.

6. (Amended) Ignition mixture according to ~~one or more of Claims 1 to 5~~ Claim 1, characterized in that the oxidant is chosen from sulfur, the peroxides of alkali metals or alkaline earth metals, from zinc peroxide, from the peroxodisulfates of the aforesaid elements, and of ammonium from the nitrates of the alkali metals and alkaline earth metals, in particular from lithium, sodium, potassium, or strontium nitrate as well as ammonium nitrate, from the oxohalogen compounds of alkali metals

or alkaline earth metals or of ammonium, in particular from potassium perchlorate or ammonium perchlorate, or from mixtures of the aforesaid substances.

7. (Amended) Ignition mixture according to ~~one or more of Claims 1 to 6~~ Claim 1, characterized in that the reducing agent is a metal, chosen from titanium, zirconium, aluminum, magnesium, or cerium, a mixture of these metals, an alloy of these metals such as titanium/aluminum, or cerium/magnesium, in that it is carbon or boron, or in that it is a mixture of the aforesaid substances.

8. (Amended) Ignition mixture according to ~~one of more of Claims 1 to 7~~ Claim 1, characterized in that, in addition to the explosives, oxidizers, and reducing agents, it contains binders and/or processing agents and/or pressing agents and/or combustion moderators known of themselves.

9. (Amended) Ignition mixture according to ~~one of more of Claims 1 to 8~~ Claim 1, characterized in that it is dyed or reacted with dye pigments.

10. (Amended) Ignition mixture according to ~~one or more of Claims 1 to 9~~ Claim 1, characterized in that substances or mixtures thereof are used as combustion moderators that are appropriate for affecting combustion and the rate thereof by heterogeneous or homogenous catalysis.

11. (Amended) Method for manufacturing the ignition mixture according to ~~one or more of Claims 1 to 10~~ Claim 1, characterized in that the individual components are mixed then pressed.

12. (Amended) Use of the ignition mixture according to ~~one or more of Claims 1 to 10~~ Claim 1 for ignition pyrotechnic mixtures or primers as well as propellant charges.

13. (Amended) Ignition mixture according to ~~one or more of Claims 1 to 10~~
Claim 1, characterized in that it contains a mixture of primary and secondary
explosives.

FILED 03/24/2000